

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: INVUE

Report Number: P140776

Luminaire Tested: **ECM-F04-LED-E1-RW-7050**

Issue Date: 03/03/2020

Test Information

Test Method: LM-79-08
Report Number: P140776
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33689)
Test Lab: INNOVATION CENTER-P3
Issue Date: 03/03/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ECM-F04-LED-E1-RW-7050
Description: EPIC CLASSICAL MEDIUM DECORATIVE LED LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (28) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10020.3 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type I - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

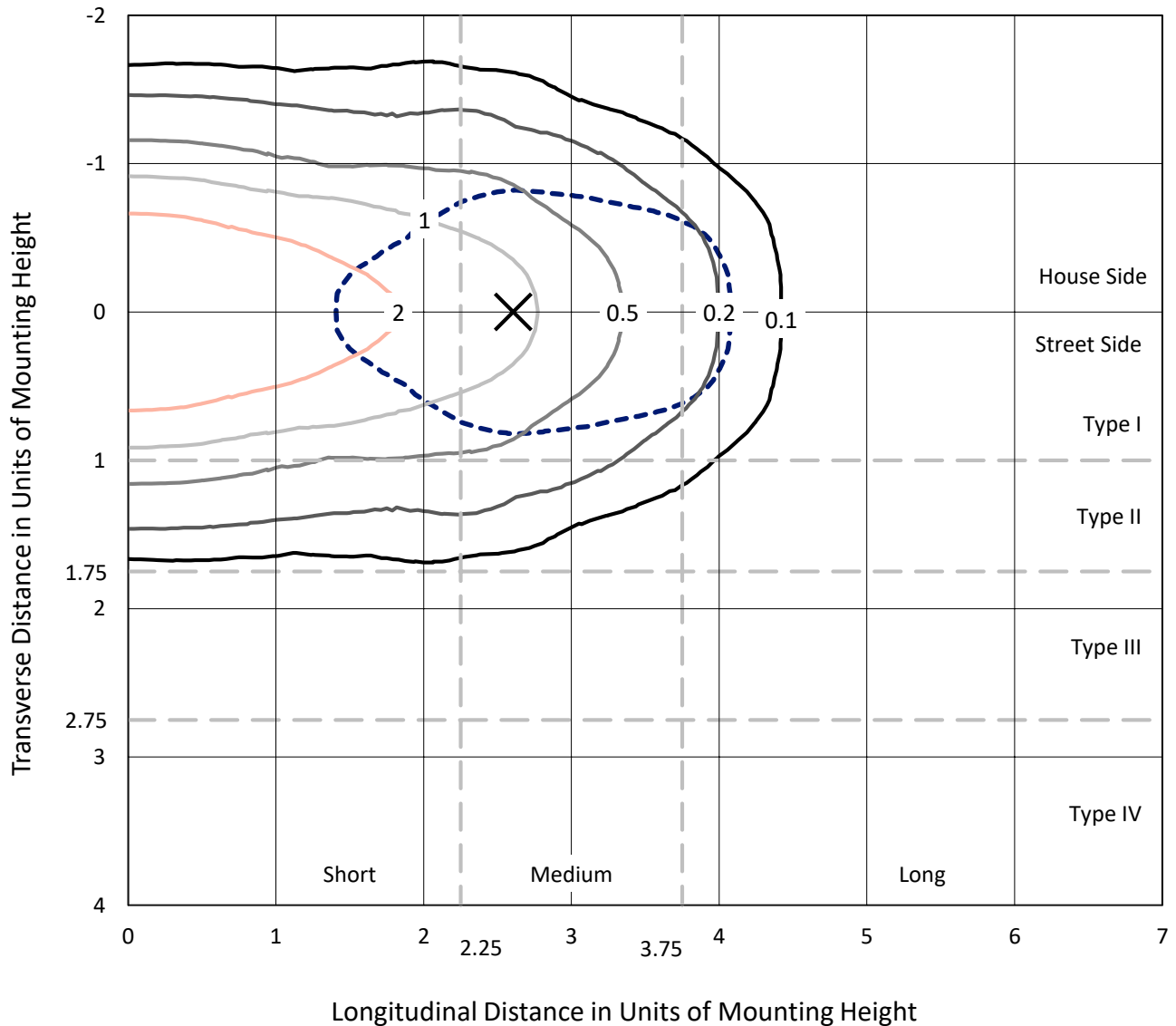
Input Watts (W): 102.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

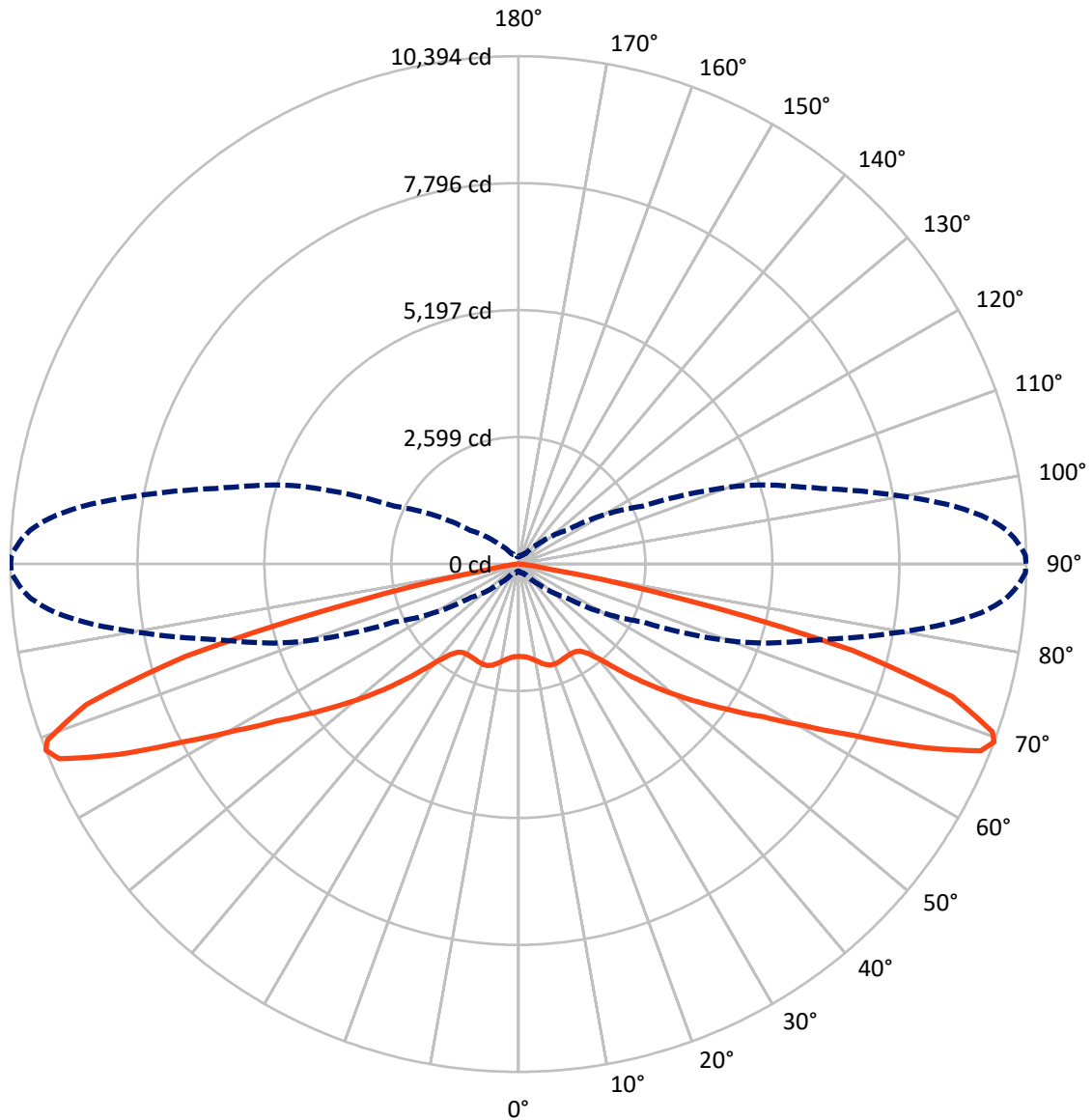
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.8 fc
 Type I - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5010.2	0.0	5010.2
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	5010.2	0.0	5010.2
	% Fixture	50.0	0.0	50.0
Total	Lumens	10020.3	0.0	10020.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.2	1.8
10°-20°	582.3	5.8
20°-30°	941.7	9.4
30°-40°	1176.2	11.7
40°-50°	1471.2	14.7
50°-60°	1812.9	18.1
60°-70°	2244.4	22.4
70°-80°	1466.9	14.6
80°-90°	139.4	1.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	10020.3	100.0
0°-180°	10020.3	100.0



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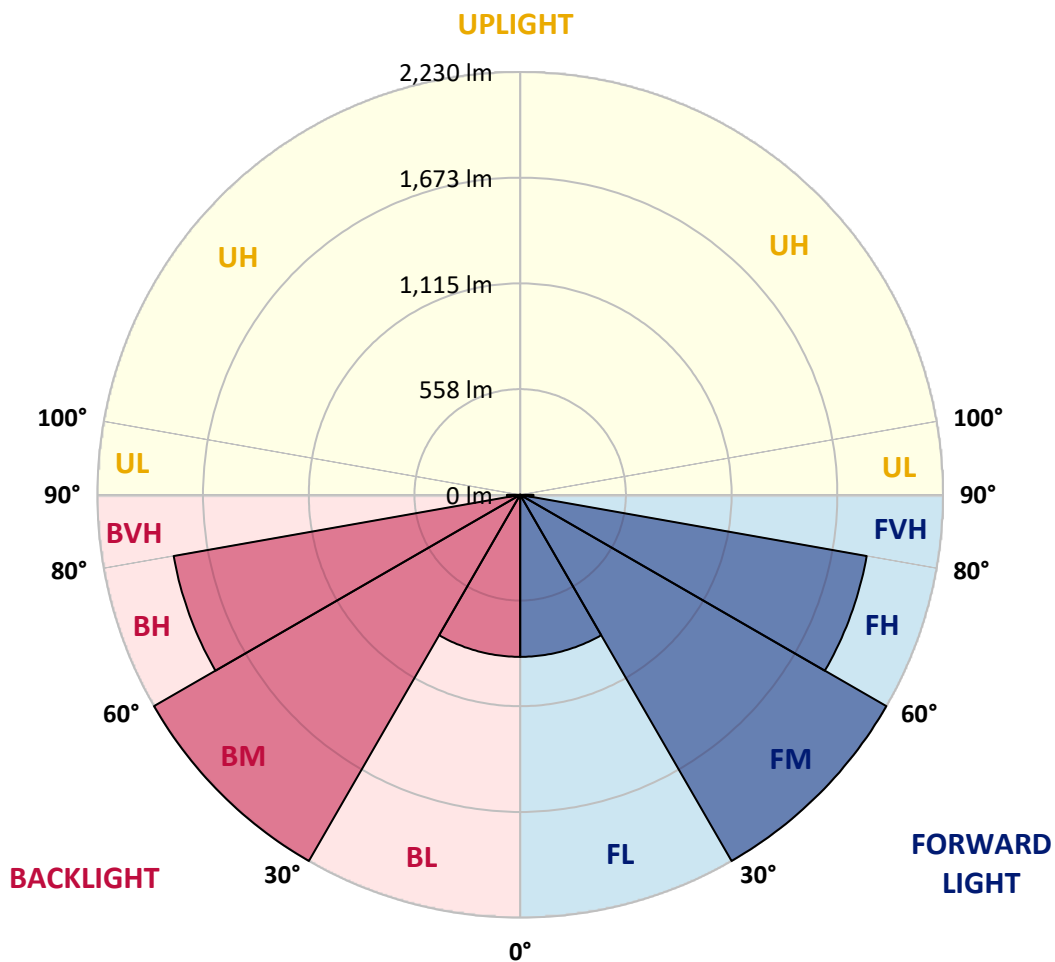
CATALOG NUMBER: ECM-F04-LED-E1-RW-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	854.6	8.5			
FM	(30°-60°)	2230.2	22.3			
FH	(60°-80°)	1855.7	18.5			G2/5000
FVH	(80°-90°)	69.7	0.7			G1/100
BL	(0°-30°)	854.6	8.5	B2/1000		
BM	(30°-60°)	2230.2	22.3	B2/2500		
BH	(60°-80°)	1855.7	18.5	B3/2500		G3/2500
BVH	(80°-90°)	69.7	0.7			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type I Short





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CATALOG NUMBER: ECM-F04-LED-E1-RW-7050

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8
2.5°	1904.2	1905.4	1902.0	1903.1	1904.2	1903.1	1901.4	1901.4	1900.8	1900.3	1899.7
5°	1916.6	1917.2	1915.5	1918.4	1918.9	1920.6	1920.6	1921.2	1920.8	1920.5	1920.2
7.5°	1934.2	1936.4	1934.7	1938.6	1942.6	1948.2	1951.1	1957.8	1957.7	1957.6	1957.5
10°	1950.5	1952.8	1952.8	1961.8	1971.4	1982.2	1993.4	2004.2	2004.9	2005.5	2006.2
12.5°	1963.0	1964.6	1967.5	1983.8	2005.4	2023.4	2043.2	2060.1	2060.8	2061.5	2062.1
15°	1957.9	1961.8	1974.8	2000.8	2038.6	2068.6	2092.8	2113.2	2114.5	2115.9	2117.2
17.5°	1940.4	1946.6	1965.2	2009.2	2067.4	2115.4	2144.2	2149.9	2150.8	2151.7	2152.6
20°	1902.5	1911.6	1941.0	2003.6	2089.4	2154.4	2183.2	2173.0	2172.1	2171.2	2170.3
22.5°	1839.3	1851.2	1887.8	1977.1	2091.2	2182.6	2210.8	2182.6	2179.5	2176.3	2173.1
25°	1754.6	1764.2	1806.0	1911.6	2065.1	2187.8	2228.4	2188.8	2183.8	2178.7	2173.6
27.5°	1651.8	1659.7	1711.6	1824.0	2000.8	2161.8	2239.6	2199.6	2193.0	2186.5	2179.9
30°	1536.0	1542.8	1599.8	1719.6	1910.4	2104.7	2238.6	2223.9	2216.1	2208.3	2200.5
32.5°	1420.8	1423.6	1474.4	1606.0	1809.9	2020.6	2219.9	2261.1	2253.6	2246.0	2238.4
35°	1294.4	1303.4	1357.6	1501.0	1696.4	1928.0	2195.1	2313.1	2308.8	2304.5	2300.2
37.5°	1192.7	1195.5	1253.6	1402.8	1604.4	1843.8	2163.4	2379.7	2382.8	2385.8	2388.8
40°	1091.0	1091.0	1148.6	1303.4	1512.3	1768.1	2136.8	2461.6	2477.1	2492.5	2508.0
42.5°	979.8	987.6	1044.2	1198.3	1423.1	1703.8	2123.4	2559.9	2589.0	2618.2	2647.3
45°	875.8	881.0	938.6	1089.4	1311.8	1630.4	2119.4	2669.4	2713.7	2757.9	2802.2
47.5°	773.7	781.0	835.8	974.2	1190.4	1532.6	2114.3	2794.2	2850.8	2907.4	2964.0
50°	678.8	683.4	744.3	870.2	1070.7	1406.2	2081.0	2933.7	3002.8	3072.0	3141.1
52.5°	578.3	587.3	637.6	767.4	949.9	1270.0	1993.5	3085.6	3169.2	3252.8	3336.3
55°	473.2	471.0	531.4	653.4	844.2	1139.6	1832.0	3217.2	3318.0	3418.9	3519.8
57.5°	346.8	354.0	409.4	533.1	721.7	1030.0	1641.6	3285.5	3411.3	3537.2	3663.0
60°	248.5	258.6	306.6	404.4	599.8	922.7	1447.4	3238.1	3404.8	3571.5	3738.2
62.5°	194.3	198.8	240.0	303.2	467.6	810.4	1316.9	3115.0	3344.8	3574.7	3804.5
65°	169.4	174.5	211.2	244.0	355.2	703.7	1238.4	3016.7	3320.1	3623.4	3926.8
67.5°	154.2	160.4	192.0	214.6	291.4	612.8	1219.8	2936.5	3292.4	3648.3	4004.2
69°	146.8	153.0	182.4	203.3	270.5	583.9	1198.3	2801.5	3162.7	3523.9	3885.1
70°	143.4	148.5	176.8	196.5	263.8	567.0	1149.8	2647.4	2996.5	3345.6	3694.7
72.5°	132.2	135.0	161.0	180.2	249.6	474.4	910.9	1981.6	2273.3	2565.1	2856.8
75°	116.9	121.4	145.1	164.9	200.5	303.8	597.5	1197.8	1413.8	1629.9	1845.9
77.5°	100.5	104.5	124.8	157.6	154.2	184.1	343.4	669.2	786.0	902.8	1019.5
80°	86.9	91.0	109.6	146.2	125.4	136.1	231.6	436.6	480.9	525.3	569.7
82.5°	68.4	71.2	92.0	119.2	97.2	101.1	173.4	381.2	408.0	434.7	461.5
85°	43.4	45.2	67.2	81.4	67.8	59.8	109.0	279.6	300.7	321.8	342.9
87.5°	15.2	21.5	30.0	28.2	28.2	21.5	38.4	103.4	111.6	119.8	128.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8
2.5°	1899.1	1898.6	1899.2	1899.2	1898.6	1898.0	1898.0	1897.4	1896.4	1896.4	1895.8
5°	1919.8	1919.5	1920.6	1920.0	1920.6	1920.0	1920.0	1919.4	1920.0	1917.8	1917.2
7.5°	1957.4	1957.3	1957.4	1959.0	1957.9	1957.3	1958.4	1958.4	1958.4	1957.3	1957.3
10°	2006.9	2007.6	2008.7	2009.8	2009.8	2009.8	2012.1	2010.4	2013.8	2010.4	2012.1
12.5°	2062.8	2063.5	2066.3	2067.4	2068.6	2068.6	2068.6	2072.0	2074.2	2073.6	2074.2
15°	2118.6	2120.0	2120.5	2122.2	2122.2	2122.8	2125.0	2129.0	2127.8	2130.1	2130.1
17.5°	2153.5	2154.4	2153.8	2153.9	2155.0	2156.6	2158.9	2161.2	2160.6	2162.3	2163.4
20°	2169.4	2168.5	2166.8	2165.7	2165.1	2166.2	2166.2	2166.8	2168.0	2168.0	2168.0
22.5°	2170.0	2166.8	2162.8	2160.6	2157.8	2156.1	2157.2	2156.1	2156.1	2156.0	2155.0
25°	2168.5	2163.4	2157.2	2152.7	2148.2	2145.4	2142.6	2141.4	2139.2	2139.1	2139.2
27.5°	2173.4	2166.8	2160.6	2152.2	2145.9	2142.5	2138.6	2134.6	2132.4	2130.1	2130.1
30°	2192.7	2184.9	2177.0	2166.8	2158.4	2155.6	2148.2	2144.2	2138.6	2135.8	2134.6
32.5°	2230.9	2223.3	2212.6	2201.2	2194.5	2186.0	2179.8	2171.4	2165.1	2161.2	2156.1
35°	2295.9	2291.6	2282.6	2275.2	2265.1	2255.5	2243.0	2238.6	2225.6	2223.3	2217.0
37.5°	2391.9	2395.0	2393.2	2387.6	2380.9	2372.4	2367.3	2357.7	2352.6	2347.5	2341.9
40°	2523.5	2539.0	2544.0	2550.3	2552.0	2559.3	2550.8	2549.7	2542.9	2548.6	2545.2
42.5°	2676.4	2705.6	2721.4	2740.0	2760.3	2779.0	2793.6	2818.5	2815.7	2834.9	2848.4
45°	2846.5	2890.8	2931.5	2962.5	3001.5	3044.4	3082.2	3117.2	3156.8	3179.4	3212.6
47.5°	3020.6	3077.2	3135.3	3192.9	3248.2	3303.6	3371.4	3432.9	3492.8	3533.4	3584.8
50°	3210.2	3279.4	3349.4	3420.0	3498.4	3585.4	3661.0	3741.2	3823.7	3907.3	3966.0
52.5°	3419.9	3503.5	3579.7	3654.3	3751.4	3843.5	3941.7	4042.2	4167.0	4258.0	4338.8
55°	3620.6	3721.4	3805.1	3894.2	3996.0	4098.2	4218.4	4344.4	4476.5	4607.5	4726.2
57.5°	3788.8	3914.6	4014.0	4102.6	4211.6	4329.6	4459.0	4614.9	4765.6	4928.3	5081.4
60°	3904.9	4071.6	4191.3	4298.0	4424.6	4555.6	4724.5	4908.5	5106.7	5308.9	5505.5
62.5°	4034.3	4264.2	4427.9	4580.4	4730.0	4875.8	5066.1	5294.8	5563.6	5808.1	6068.4
65°	4230.2	4533.6	4775.2	4969.5	5181.8	5394.2	5616.1	5883.2	6188.8	6545.6	6848.8
67.5°	4360.1	4716.0	5023.2	5301.6	5549.5	5807.6	6087.6	6407.3	6776.0	7140.3	7517.6
69°	4246.3	4607.5	4932.2	5238.8	5510.5	5788.4	6073.0	6394.8	6771.6	7174.2	7572.3
70°	4043.8	4392.9	4728.4	5051.4	5316.8	5607.1	5887.2	6193.8	6575.6	6978.2	7411.4
72.5°	3148.6	3440.3	3784.8	4096.5	4413.2	4678.2	4931.1	5238.9	5624.0	6007.4	6429.3
75°	2062.0	2278.0	2593.2	2849.5	3123.4	3372.0	3555.4	3861.0	4094.8	4455.6	4847.6
77.5°	1136.3	1253.1	1416.8	1625.8	1743.8	1883.9	2067.4	2178.6	2344.7	2597.1	2714.6
80°	614.1	658.4	727.4	770.8	805.8	771.4	752.8	786.1	772.0	768.0	730.2
82.5°	488.2	515.0	550.6	576.0	559.6	485.6	407.2	350.1	313.4	263.7	225.9
85°	364.0	385.2	398.6	415.6	412.8	373.2	298.8	231.0	181.2	144.6	126.0
87.5°	136.3	144.6	148.5	180.7	166.0	157.6	122.5	89.2	68.4	49.7	40.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8	1891.8
2.5°	1896.9	1896.4	1896.3	1896.3	1896.8	1895.8	1894.6	1895.8	1895.2	1895.2	1895.2
5°	1919.5	1918.9	1918.9	1919.5	1918.9	1919.5	1918.9	1916.6	1917.8	1918.4	1918.9
7.5°	1958.4	1957.9	1957.8	1960.7	1960.2	1959.6	1959.0	1960.2	1958.4	1958.4	1959.6
10°	2012.1	2014.4	2013.8	2015.4	2014.9	2013.8	2012.6	2013.8	2015.5	2016.0	2013.8
12.5°	2077.6	2078.1	2077.0	2079.9	2078.2	2082.1	2077.6	2079.9	2082.1	2078.8	2080.4
15°	2130.7	2130.6	2133.0	2133.5	2133.0	2134.0	2137.4	2135.8	2134.1	2136.9	2138.0
17.5°	2162.9	2164.6	2165.2	2165.7	2166.9	2168.0	2168.5	2168.0	2168.5	2169.6	2171.9
20°	2170.2	2169.6	2170.8	2171.4	2173.0	2173.0	2174.1	2173.6	2175.3	2175.8	2176.4
22.5°	2157.2	2157.8	2158.4	2160.0	2159.5	2160.6	2161.2	2162.9	2162.3	2163.4	2164.0
25°	2139.7	2140.8	2141.4	2140.9	2140.9	2141.4	2142.0	2141.4	2143.6	2144.8	2144.8
27.5°	2128.4	2128.4	2130.1	2129.6	2128.4	2129.6	2129.0	2129.0	2129.0	2129.6	2131.2
30°	2133.0	2131.2	2130.1	2130.1	2129.6	2128.4	2127.3	2125.6	2125.6	2126.2	2125.6
32.5°	2157.2	2153.8	2152.2	2150.4	2149.4	2146.5	2143.1	2142.0	2139.2	2139.2	2138.0
35°	2219.4	2215.4	2215.4	2209.2	2205.8	2204.1	2201.2	2192.8	2193.4	2190.0	2188.8
37.5°	2343.0	2336.2	2333.4	2339.0	2328.4	2332.8	2323.2	2319.3	2321.6	2315.3	2318.7
40°	2550.9	2561.6	2557.0	2563.2	2566.0	2567.2	2567.2	2557.6	2567.2	2552.0	2557.0
42.5°	2850.7	2878.9	2889.1	2892.4	2910.0	2905.4	2900.4	2899.8	2899.2	2906.6	2902.6
45°	3227.9	3231.8	3279.8	3288.9	3298.5	3309.2	3306.4	3318.8	3327.9	3315.4	3317.1
47.5°	3613.6	3653.7	3688.8	3708.0	3728.8	3718.0	3726.6	3731.6	3763.8	3760.4	3757.6
50°	4038.3	4105.5	4124.2	4145.0	4161.4	4194.2	4191.4	4211.1	4207.7	4234.2	4237.6
52.5°	4441.0	4514.9	4590.0	4622.8	4647.6	4685.4	4700.2	4721.5	4713.7	4711.4	4731.2
55°	4841.3	4965.0	5050.8	5135.0	5181.8	5232.1	5253.5	5284.0	5297.6	5303.8	5279.0
57.5°	5238.3	5386.8	5532.0	5635.9	5708.2	5783.8	5823.9	5857.2	5896.2	5909.2	5896.8
60°	5702.5	5919.9	6110.2	6249.2	6382.4	6464.9	6551.3	6614.6	6626.4	6680.0	6714.5
62.5°	6320.8	6585.7	6826.9	7029.0	7235.7	7389.9	7545.8	7607.8	7669.4	7711.2	7736.6
65°	7164.0	7513.0	7846.2	8133.6	8387.2	8643.6	8825.4	8920.8	9043.4	9067.6	9041.1
67.5°	7903.2	8314.9	8728.8	9094.8	9368.7	9634.6	9850.4	10008.4	10123.1	10179.6	10203.3
69°	7984.6	8403.0	8826.0	9190.8	9522.2	9787.7	10008.5	10165.4	10279.6	10377.2	10394.2
70°	7818.0	8287.8	8698.9	9067.1	9408.8	9679.3	9876.9	10056.5	10186.4	10261.5	10288.0
72.5°	6863.0	7285.4	7700.5	8124.6	8417.6	8742.3	8905.0	9049.0	9221.8	9320.1	9298.6
75°	5201.0	5566.4	5928.4	6245.8	6471.7	6591.4	6781.7	6921.2	6895.8	7061.2	7065.7
77.5°	2933.7	2981.1	3226.8	3194.0	3302.5	3305.2	3333.5	3382.6	3288.4	3482.0	3343.1
80°	711.6	702.0	752.8	692.9	687.8	682.8	665.8	699.1	703.6	669.2	675.4
82.5°	209.0	199.9	196.0	190.9	199.4	196.5	198.2	199.4	205.0	197.6	205.6
85°	114.6	107.8	107.3	104.5	103.9	97.7	97.2	97.2	93.2	94.3	93.7
87.5°	44.1	41.2	39.0	37.2	36.8	35.0	33.3	30.5	27.1	24.2	22.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)